IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with strikethrough. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (Previously Presented), (previously presented), or (not entered).

Please AMEND claim 21 and cancel claim 28 in accordance with the following:

Claims 1-15 (Canceled)

16. (Previously Presented) A method for receiving a multicarrier signal transmitted via a transmission medium subjecting each frequency-discrete subcarrier of the multicarrier signal to subcarrier-specific disturbances caused by adjacent subcarriers in the frequency domain, the multicarrier signal having a number of frequency-discrete subcarriers and carrying inserted information converted by a multicarrier method to frequency-discrete modulation-specific modulation symbols, said method comprising:

superimposing on each frequency-discrete subcarrier of the multicarrier signal predetermined test disturbances to produce a deliberately disturbed multicarrier signal;

comparing disturbed modulation symbols in the deliberately disturbed multicarrier signal with undisturbed, modulation-specific modulation symbols, to derive subcarrier-specific error information;

deriving correction information representing the subcarrier-specific disturbances as a function of the predetermined test disturbances and the subcarrier-specific error information; and

correcting the frequency-discrete subcarriers of the multicarrier signal based on the correction information.

17. (Previously Presented) The method as claimed in claim 16, wherein a number of different test disturbances are provided with each frequency-discrete subcarrier that is subjected

to a test disturbance being disturbed by at least one of constant and frequency-dependent disturbance information.

18. (Previously Presented) The method as claimed in claim 17,

further comprising establishing differently defined reference disturbance information items,

wherein said superimposing comprises

deriving from the multicarrier signal frequency-discrete received symbols representing the frequency-discrete subcarriers,

subjecting, for each reference disturbance information item, each of the frequency-discrete received symbols in adjacent subcarriers which are adjacent to at least some of the subcarriers in the frequency domain, to disturbances from the reference disturbance information item to produce disturbed symbols, and

superimposing the disturbed symbols in the adjacent subcarriers as the predetermined test disturbances on the received symbol to produce deliberately disturbed symbols,

wherein said comparing compares each deliberately disturbed symbol with a closest modulation-specific modulation symbol to form the subcarrier-specific error information, and

wherein said deriving comprises

forming disturbance-information-specific sum error information from the subcarrier-specific error information, and

deriving the correction information from the differently defined reference disturbance information items and the disturbance-information-specific sum error information items.

19. (Previously Presented) The method as claimed in claim 18, further comprising:

at least one of delaying and temporarily storing the frequency-discrete received symbols derived from the multicarrier signal until the correction information has been established;

correcting the frequency-discrete received symbols, after said at least one of delaying and temporarily storing, by the determined correction information to produce corrected symbols; and

superimposing the corrected symbols on the frequency-discrete received symbols.

20. (Previously Presented) The method as claimed in claim 18, wherein said deriving further comprises

establishing a correction function using the differently defined reference disturbance information items and the disturbance-information-specific sum error information items; and

calculating the correction information using the correction function.

21. (Currently Amended) The method as claimed in claim 20,

wherein ~~four~~ three differently defined reference disturbance information items are provided, and are used to derive ~~four~~ three disturbance-information-specific sum error information items; and

wherein said calculating is performed by

$$ici_{opt} = \left(\frac{s\varepsilon4 - \frac{(s\varepsilon1 + s\varepsilon3)}{2}}{2(s\varepsilon1 - s\varepsilon3)} \right) \bullet (ici1 - ici3) + \frac{ici4}{2}$$

where

$s_{\varepsilon}1$, $s_{\varepsilon}3$ and [[...]] $s_{\varepsilon}4$ represents the ~~four~~ three disturbance-information-specific

sum error information items, and

$ici1$, $ici3$ and [[...]] $ici4$ represents the ~~four~~ three differently defined reference

disturbance information items.

22. (Previously Presented) The method as claimed in claim 18,

further comprising repeating said establishing, superimposing, comparing and deriving to

determine the correction information iteratively until a minimum value of the disturbance-

information-specific sum error information is determined.

23. (Previously Presented) The method as claimed in claim 18, further comprising

correcting each deliberately disturbed symbol by equalization as a function of frequency-

selective transmission characteristics of the transmission medium before said comparing with

the closest modulation-specific modulation symbol.

24. (Previously Presented) The method as claimed in claim 18, further comprising, after

said superimposing, comparing, deriving and correcting of the adjacent subcarriers:

subjecting the frequency-discrete received symbols of distant subcarriers, each

arranged further away from at least some of the subcarriers in the frequency domain, to

disturbances from the differently defined reference disturbance information items to produce

distant disturbed symbols;

superimposing the distant disturbed symbols as deliberate test disturbances on

each received symbol to produce additionally disturbed subcarriers; and

repeating said comparing, deriving and correcting using the additionally disturbed

subcarriers.

25. (Previously Presented) The method as claimed in claim 17, wherein error identification information is inserted into the multicarrier signal prior to transmission

wherein said method further comprises:

demodulating corrected symbols resulting from said correcting of the frequency-discrete subcarriers to produce demodulated symbols,

identifying errors in the demodulated symbols using the error identification information to produce identified erroneous symbols;

correcting identified erroneous symbols to produce corrected erroneous symbols;

determining additional correction information using the corrected erroneous symbols; and

repeating said comparing, deriving and correcting of the frequency-discrete subcarriers using the additional correction information.

26. (Previously Presented) The method as claimed in claim 16, wherein the multicarrier signal is generated by one of an Orthogonal Frequency Division Multiplexing transmission method and a transmission method based on discrete multiple tones.

27. (Previously Presented) The method as claimed in claim 16, wherein the transmission medium is one of a wireless radio channel, a cable-based transmission channel and a wire-based transmission channel.

28. (Canceled)

29. (Previously Presented) A method for receiving a multicarrier signal transmitted via a transmission medium subjecting each frequency-discrete subcarrier of the multicarrier signal to

subcarrier-specific disturbances caused by adjacent subcarriers in the frequency domain, the multicarrier signal having a number of frequency-discrete subcarriers and carrying inserted information converted by a multicarrier method to frequency-discrete modulation-specific modulation symbols, said method comprising:

demodulating the multicarrier signal to produce a demodulated multicarrier signal;

identifying and correcting errors in the demodulated multicarrier signal using an error handling routine; and

when a predetermined number of errors that cannot be corrected are found,

superimposing on each frequency-discrete subcarrier of the multicarrier signal predetermined test disturbances to produce a deliberately disturbed multicarrier signal;

comparing disturbed modulation symbols in the deliberately disturbed multicarrier signal with undisturbed, modulation-specific modulation symbols, to derive subcarrier-specific error information;

deriving correction information representing the subcarrier-specific disturbances as a function of the predetermined test disturbances and the subcarrier-specific error information; and

correcting the frequency-discrete subcarriers of the multicarrier signal based on the correction information.

30. (Previously Presented) A system for receiving a multicarrier signal transmitted via a transmission medium subjecting each frequency-discrete subcarrier of the multicarrier signal to subcarrier-specific disturbances caused by adjacent subcarriers in the frequency domain, the multicarrier signal having a number of frequency-discrete subcarriers and carrying inserted information converted by a multicarrier method to frequency-discrete modulation-specific modulation symbols, said system comprising:

means for superimposing on each frequency-discrete subcarrier of the multicarrier signal predetermined test disturbances to produce a deliberately disturbed multicarrier signal;

means for comparing disturbed modulation symbols in the deliberately disturbed multicarrier signal with undisturbed, modulation-specific modulation symbols, to derive subcarrier-specific error information;

means for deriving correction information representing the subcarrier-specific disturbances as a function of the predetermined test disturbances and the subcarrier-specific error information; and

means for correcting the frequency-discrete subcarriers of the multicarrier signal based on the correction information.